

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-049220

(43)Date of publication of application : 15.02.2002

(51)Int.Cl.

G03G 15/02

G03G 9/08

(21)Application number : 2000-234931

(71)Applicant : CANON INC

(22)Date of filing : 02.08.2000

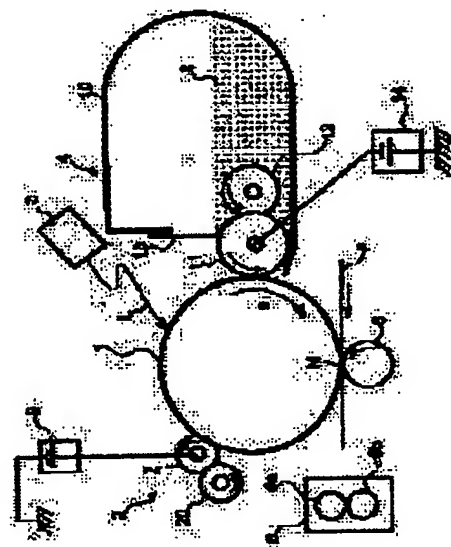
(72)Inventor : SEKIGUCHI MANAMI  
SAKAIZAWA KATSUHIRO

## (54) IMAGE FORMING DEVICE

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To prevent the occurrence of image defects or electrostatic charge defects, by properly recovering transfer residual toner sticking on an electrostatic charging roller.

**SOLUTION:** By arranging a sponge roller 20, an open-cell type foamed body is constituted in a freely rotational manner, and coming into contact with the charging roller 7 for electrifying a photosensitive drum 1, since the transfer residual toner stuck on the sponge roller 20 can be recovered by fetching it into bubbles in the sponge roller 20, dirt derived from the transfer residual toner on the charging roller 7 surface is eliminated, therefore satisfactory images can be obtained by preventing the charge defect.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

**\* NOTICES \***

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**CLAIMS**

---

[Claim(s)]

[Claim 1] Image formation equipment characterized by what is done for the contact arrangement of the open-cell foam which can rotate freely to said contact electrification member in image formation equipment equipped with the image support which can rotate freely, and the contact electrification member which has the flexibility charged in said image support by impression of electrification bias voltage in contact with said image support, and which can be rotated.

[Claim 2] The maximum top-most vertices of said open-cell foam are image formation equipment according to claim 1 characterized by what is located in the hand-of-cut downstream of said contact electrification member to the electrification nip to which it is a lower part and said contact electrification member contacts said electrophotography photo conductor from the center of rotation of said contact electrification member.

[Claim 3] Said open-cell foam is image formation equipment according to claim 1 or 2 which is roller geometry and is characterized by what is rotated to hard flow to said contact electrification member hand of cut in the contact section with said contact electrification member.

[Claim 4] Image formation equipment according to claim 1, 2, or 3 with which the rubber degree of hardness of said open-cell foam is characterized by what is been 15 degrees or less by the ASUKA C degree of hardness.

[Claim 5] 1000cm<sup>3</sup> of said open-cell foam Image formation equipment according to claim 1, 2, 3, or 4 characterized by what it hits or the quantity of airflow for [ thing ] 1 minute is 500-5000ml/ (min.1000cm<sup>3</sup>):

[Claim 6] Image formation equipment according to claim 1, 2, 3, 4, or 5 characterized by what the contact pressure to said contact electrification member of said open-cell foam is 0.049 - 0.98 N/cm.

[Claim 7] Image formation equipment according to claim 1, 2, 3, 4, 5, or 6 characterized by what it has the potential difference for between the bias voltage impressed to said open-cell foam, and the bias voltage impressed to said contact electrification member.

[Claim 8] Image formation equipment according to claim 1, 2, 3, 4, 5, 6, or 7 characterized by what is been more than the absolute value of the electrification bias voltage with which direct-current bias voltage is impressed to said open-cell foam, and the absolute value of said direct-current bias voltage is the electrification bias voltage and like-pole nature which are impressed to said contact electrification member, and is impressed to said contact electrification member.

[Claim 9] Image formation equipment according to claim 1, 2, 3, 4, 5, 6, 7, or 8 characterized by what image formation equipment is equipped with said open-cell foam for free [ attachment and detachment ] at least.

[Claim 10] Image formation equipment according to claim 1, 2, 3, 4, 5, 6, 7, 8, or 9 which carries out unitization of said image support, said contact electrification member, and said open-cell foam at least, and is characterized by what a process cartridge is formed and image formation equipment is equipped with said process cartridge for free [ attachment and detachment ].

[Claim 11] Image formation equipment according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 characterized by what the configuration of a developer of developing the electrostatic latent

image formed on said image support is a near configuration spherically or spherically, and multiplier SF-2 multiplier SF-1 showing the roundness of a developer indicates the concavo-convex degree on 100-160, and the front face of a developer to be are 100-140.

---

[Translation done.]